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16 |

17 | **UNITED STATES DISTRICT COURT**

18 | **DISTRICT OF NEVADA**

19 | APPLICATIONS IN INTERNET TIME, LLC, | Civil Action No.: 3:13-CV-00628-RCJ-VPC

20 | Plaintiff,

21 | v. | **DECLARATION OF CRAIG ROSENBERG RE CLAIM CONSTRUCTION**

22 | SALESFORCE.COM, INC.,

23 | Defendant.

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26 |

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1   I, Craig Rosenberg, hereby declare, affirm, and state the following:

2   1.   The facts set forth below are known to me personally and I have firsthand knowledge

3   of them.

4   2.   I make this Declaration in support of Plaintiff Applications In Internet Time, LLC's

5   ("AIT") proposed claim constructions in the above-captioned matter.

6   **I.   Background**

7   3.   I am a senior human factors engineer, user interface designer, and software architect

8   at Global Technica. A copy of my CV as well as a listing of my prior consulting engagements,

9   including cases in which I have testified as an expert at trial or by deposition in the last five years,

10   are attached as Exhibit 1 to this Declaration.

11   4.   I am being compensated at the rate of $325 per hour for my work in connection with

12   this matter. My compensation in this action is not dependent in any way on the contents of this

13   Declaration, the substance of any further opinions or testimony that I may provide, or on the ultimate

14   outcome of this action.

15   5.   I have reviewed U.S. Patent Nos. 7,356,482 ("the '482 patent") and 8,484,111 (the

16   '111 patent") and their file histories. I understand that the '482 and '111 patents are related, and that

17   both patents claim priority to the same original patent application, U.S. Patent Application No.

18   09/215,898, filed on December 18, 1998.

19   6.   The '482 and '111 patents are both titled "Integrated Change Management Unit," and

20   the patents relate generally to systems and methods for enabling individuals with knowledge of

21   business processes, rather than only computer programmers, to have responsibility for application

22   development with a simple and efficient metadata-driven application platform.

23   7.   I understand that the general standard for construing claim terms is the meaning that

24   the terms would have to a person of ordinary skill in the art in question at the time of the invention.

25   8.   I understand that the factors to be considered in determining the level of ordinary skill

26   in the art to be: (1) the educational level of active workers in the field, including the named inventors

27   of the patent; (2) the type of problems encountered in the art; (3) prior art solutions to those

28   problems; (4) the rapidity with which innovations are made; and (5) the sophistication of the

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1   technology in the art. I further understand that the alleged invention date of the '482 and '111 patent

2   claims is sometime around December 1997.

3   9.   I understand that, in construing terms, the Court looks first to the intrinsic evidence of

4   record, which includes the patent itself (including the claims and the specification) and the

5   prosecution history of the patent. I also understand that the Court may also consider extrinsic

6   evidence, which includes expert and inventor testimony, dictionaries, and learned treatises.

7   10.   I understand that a claim is indefinite if it does not inform one of ordinary skill in the

8   art about the scope of the invention with reasonable certainty. I also understand that the party

9   alleging that a patent claim is indefinite bears the burden of proving indefiniteness by clear and

10   convincing evidence.

11   11.   Based on my review of the '482 and '111 patents and on my consideration of the

12   above-mentioned factors, it is my opinion that a person of ordinary skill in the art at the time of the

13   invention of the '482 and '111 patents (sometime in the late 1997-98 time period) would be someone

14   with a bachelor's degree in computer science, computer engineering, mathematics, or a similar

15   course of study and at least 3 years of practical experience working in software development or

16   computer programming.

17   12.   I am offering my opinions in this lawsuit based on my experience as one of at least

18   ordinary skill in the art of the '482 and '111 patents at the time of the invention.

19   13.   Traditionally, a computer program, also called a software application, is first written

20   in source code using a suitable programming language, such as C, C++, or Java. Then, the source

21   code is compiled into machine-executable code, also known as binary code. The machine-

22   executable code can subsequently be distributed to various users.

23   14.   When any change or modification needs to be incorporated into the program, a

24   software developer or programmer must modify or rewrite the relevant portion of the source code.

25   Thereafter the new source code must be re-compiled and re-tested, and the new machine-executable

26   code must be re-distributed to the users. This whole process must be repeated for each and every

27   modification made to the program.

28   15.   In some cases, changes or modifications need to be made to a program rather

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1   frequently. For example, bugs need to be fixed; new features and functions need to be added;

2   adjustments need to be made based on business requirements; and so on. The '482 and '111 patents

3   discuss, as an example, a situation where changes in regulatory requirements may result in business

4   changes in specific industries and consequently causing business applications to implement

5   functional or data changes. Other types of changes, such as bug fixes and new features, may also

6   result in modifications or updates to an application. As the '482 and '111 patents point out,

7   "Without an integrated method for automatically handling such changes, a developer or user of

8   software that tracks business operations must continually rewrite part or all of the software in order

9   to accurately and fully reflect these changes, usually at great expense and effort and with little hope

10   for relief." ('482 patent at 9:4-9. '111 patent at 9:9-15.)

11   **II.   The '482 and '111 Patents and the Preferred Embodiment**

12   16.   The '482 and '111 patents disclose a system and method to automate the software

13   modification process, thus relieving software developers from manually implementing software

14   changes and in general streamlining and improving the process of developing software applications.

15   Instead of writing a software application in source code, the invention defines various aspects of an

16   application, such as its functionality, user interface, and data, using metadata combined with a data

17   dictionary.

18   17.   The '482 and the '111 patents describe a system where four different layers work in

19   conjunction to allow users to easily modify an application or a set of applications to suit the users'

20   needs without having to modify the applications source code (Change Layer, Java Data Management

21   Layer, Metadata Layer, Business Content Layer). There are many advantages of having a system

22   that allows the user to quickly make changes to an application without the user having to be a highly

23   technical software engineer. There are other advantages associated with the inventive system

24   described in the '482 and '111 patents including easier configuration management, easier to make

25   changes to the application's user interface, easier to make changes to the application's business

26   logic, easier to make changes to the application's reporting and logging functionality, and easier to

27   build and deploy the system to its end users.

28   18.   The disclosed system is able to accomplish these advantages through the use of the

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1 four different layers described above (Change Layer, Java Data Management Layer, Metadata Layer,

2 Business Content Layer) combined with a data dictionary and two types of metadata that are both

3 part of the metadata layer. The patent describes the data dictionary as follows: "The data dictionary

4 describes or defines the data elements of the application system and the business content layer and

5 how a data element is recorded and managed at the database management system (DBMS) level."

6 ('482 patent at 12:34-38. '111 patent at 12:39-43.).   A data dictionary can be defined as a collection

7 of descriptions of the data objects or items in a data model for the benefit of programmers and others

8 who need to refer to them. The data dictionary holds the various data elements that are used in the

9 application. In general, when developing programs that use a data model, a data dictionary can be

10 consulted to understand where a data item fits in the structure, what values it may contain, and what

11 the data item means in real-world terms. For example, a bank or group of banks could model the

12 data objects involved in a loan application. They could then provide a data dictionary for a bank's

13 programmers. The data dictionary would describe each of the data items in its data model for

14 consumer banking (for example, "Account holder" and ""Loan Amount").

15   19.   Fundamentally speaking, metadata is data that describes attributes of the data – in

16 other words, "data about data." (Understanding Metadata, page 1,

17 http://www.niso.org/publications/press/UnderstandingMetadata.pdf. Metadata,

18 https://en.wikipedia.org/wiki/Metadata. Metadata, http://whatis.techtarget.com/definition/metadata.)

19 The invention described in the '482 and '111 patents takes advantage of this characteristic of

20 metadata and uses metadata to define all aspects of an application. The metadata forms a metadata

21 layer. ('482 patent at 12:30-52. '111 patent at 12:34-56.) In a specific embodiment, the metadata is

22 stored in metadata tables in a database. ('482 patent at 12:53-14:19. '111 patent at 12:57-14:21.)

23 Different metadata tables may be used to store different types of metadata.

24   20.   In a preferred embodiment, there is a metadata layer that manages and stores the

25 application metadata. ('482 patent at 12:15-14:19. '111 patent at 12:20-14:21.) The metadata model

26 has two main components: a business content data dictionary and an application component. "The

27 business content layer includes business knowledge, logical designs, physical designs, physical

28 structures, relationships, and data associated with a selected area of business activity. The business

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1   content layer is defined by and referenced in the metadata layer so that the necessary objects, tables,

2   columns, relationships, functions, procedures and data can be read and updated by the Java data

3   management layer." ('482 patent at 12:16-28. '111 patent at 12:20-31.) "The data dictionary

4   describes or defines the data elements of the application system and the business content layer and

5   how a data element is recorded and managed at the database management system (DBMS) level.

6   The application component primarily records procedures for manipulating business information

7   using data entry forms, worklists, processes, documents, reports, and business logic." ('482 patent at

8   Fig 1; 12:34-41. '111 patent at Fig 1; 12:37-45.)

9   21.   Thus, at a high level, the '482 and '111 patents describe metadata within two layers:

10 one layer includes metadata that defines the unique aspects of an application; and the other layer

11 includes metadata that defines aspects common to a variety of applications. They correspond to the

12 first and second information, respectively, as recited in the asserted claims.

13   22.   In the invention disclosed in the '482 and the '111 patent, the data dictionary works in

14 concert with the two types of metadata (i.e. "unique" and "common") to fully specify an application

15 or set of applications. The data dictionary holds the various kinds of data that the application will use

16 and the metadata is then used to customize the various data elements in the data dictionary

17 depending on what is needed by the specific application.

18   23.   As an example, let us describe a software application that a bank is creating to allow

19 customers to submit an application to take out a loan from the bank.   In addition to other

20 components, the bank software applications used to gather and process information from potential

21 loan applicants will need to have a user interface for the user of the application to input information

22 about the applicant of the loan as well as business logic that describes how the data that is submitted

23 is processed, where it is routed, how reporting and accounting takes place, etc.   In our simple

24 example, let us say there are two kinds of loans that the bank application needs to support; 1) a short

25 term cash loan with a maximum loan amount of $1,000 and 2) a home mortgage loan with a

26 maximum amount of $1,000,000.   Both of these loan applications will need to collect basic

27 information about the applicant including their first name, last name, address, phone number, etc.

28 These are all data fields are described in the data model and are also aggregated into the data

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1   dictionary. Each of these common data elements can be described by metadata that describe these

2   common attributes of these elements. As described above, this would be the metadata that defines

3   aspects of the application that were "common" across the two different loan applications (i.e. short

4   term loan and home mortgage loan). Each of these data elements would be fully defined and

5   customized by "common" metadata, that describes attributes of the data elements for each of the two

6   variants of the bank loan application.

7   24.   In addition to the metadata that is describing the "common" data elements, there

8   would also be metadata that is describing the "unique" aspects of the two different loan applications.

9   For example, the short term loan application may have a data element that needs to be provided by

10   the user that describes the date of the next paycheck, however this would not be needed in the home

11   loan application.   Similarly, the home mortgage loan application may have a data element that needs

12   to be provided by the user that describes the currently assessed value of the house for which the

13   applicant wants to take out a home mortgage for but this data field would not be needed for the short

14   term loan application. Each of these two data elements would be fully defined and customized by

15   "unique" metadata, that describes attributes of the data elements for each of the two variants of the

16   bank loan application (i.e. short term loan application versus home mortgage loan application.) In

17   order for a user to build or modify the bank loan application all they would need to do is to modify

18   the metadata that describes the attributes of the common and unique data elements and the system

19   would automatically rebuild the application and distribute it to the servers to reflect the attributes of

20   the underlying metadata.

21   25.   In the preferred embodiment, the metadata defining the common aspects of a variety

22   of applications is described as standard interface system, or SIS. ('482 and '111 patents at Figs. 3-5.)

23   The SIS tables define application functions that are used to generate various application components.

24   These tables are part of the metadata layer. ('482 patent at 12:54-55. '111 patent at 12:58-59.) SIS

25   has the advantage of not requiring (re)programming to respond to changes made to the applications

26   because the system is dependent on and driven by metadata. ('482 patent at 11:64-12:2. '111 patent

27   at 11:66-12:4.)

28   26.   When an application is needed (e.g., by an end user), the metadata that defines the

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1   application, including both the common and the unique metadata, is interpreted to generate the

2   necessary components of the application, including, for example, its user interface, functionality,

3   application data, and so on. The '482 and '111 patents refer to this process as "data mapping"

4   without hard-wired coding. ('482 patent at 15:17-30. '111 patent at 15:19-32.) In the preferred

5   embodiment, this is done through the Java Data Management Layer. ('482 patent at 14:21-16:16.

6   '111 patent at 14:25-16:16.) As a result, applications are created in an entirely metadata-driven

7   fashion.

8   27.   In connection with the Java Data Management Layer, which is responsible for

9   interpreting the metadata and generating the applications, the '482 and '111 patents states that "The

10   user interface is generated by the interpretation of the metadata layer delivered to the Java data

11   management layer." ('482 patent at 15:17-18. '111 patent at 15:19-20.) "The Java data

12   management layer and thus what the end user sees is defined only by the metadata and is generated

13   as needed by a single program that interprets what a form will look like." ('482 patent at 15:26-29.

14   '111 patent at 15:28-30.) Thus, an application is solely defined by metadata and generated from

15   such metadata as needed. This helps improve programming flexibility since there is no hard-wired

16   connection between an application's source code and its business operations and data. ('482 patent

17   at 15:29-30. '111 patent at 15:15:31-32.) "The Java data management layer and the metadata layer

18   together serve as a standard interface system that is positioned 'on top of' one or more databases,

19   allowing addition, deletion and modification of data entry forms, tables, views, images, reports,

20   queries, information processing and logic, monitoring or work flow and distribution and routing,

21   menu presentations and provision of regulatory or non-regulatory alerts. Substantially all of the data

22   entry and modification, report monitoring and preparation, and other monitoring processes are

23   transparent so that the user need not be a computer programmer to deal with changes that occur from

24   time to time." ('482 patent at 16:4-15. '111 patent at 16:5-16.)

25   28.   Since every aspect of an application is defined by metadata, whenever any

26   modification needs to be incorporated into the application, only the relevant metadata needs to be

27   changed. There is no need to modify or rewrite the application's source code since the application is

28   not defined using source code as with the traditional method. As the '482 and '111 patents point out,

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1   "The most important aspect of the server-based, programming-free model is the system's ability to

2   create, change and (re)configure the application system at one location and to promptly make the

3   modified application system available elsewhere within the enterprise as well. This approach also

4   eliminates the need to write new code or to modify existing code and eliminate the need for

5   (re)compiling and creating executable instructions and updating every affected user's computer

6   within the organization. This approach is implemented using intuitive, user-friendly, dialog-based

7   screens and using small code segments to define business logic." ('482 patent at 12:43-52. '111

8   patent at 12:46-56.)

9   29. By using the metadata to define software applications, the invention is able to

10 automate the software modification process by generating an application's executable code from

11 interpreting its metadata. Moreover, since only the metadata needs to be modified to incorporate

12 changes to an application, which eliminates the need to modify or rewrite the application's source

13 code, a person without extensive software programming skill may also be able to modify the

14 application's metadata and thus making changes to the application. This lessens the demand on

15 software developers and programmers as well.

16   30. Certain software functionalities are often commonly found in multiple software

17 applications. For example, most applications today have a graphical user interface with similar

18 design layout and functionality. Other features common to multiple applications include: printing,

19 file opening, file saving, data searching, program exiting, and so on. Such common functionalities

20 are also defined using metadata, similar to other aspects of the applications.

21   31. Suppose that a particular functionality is found among several software applications.

22 The same set of metadata that defines this functionality can then be used and reused by all those

23 applications that implement this functionality. The '482 and '111 patents refer to such metadata as

24 information "common to a variety of applications." ('482 patent at 32:19-20, 33:41-43. '111 patent

25 at 31:64-66, 32:43-45, 33:25-27.) When a new application needs to be developed, it can re-use all

26 the existing metadata that defines those functionalities shared by existing applications, and only

27 develop and create new metadata that defines functionalities unique to this new application. The

28 '482 and '111 patents refer to metadata that defines functionalities unique to a particular application

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1   as "information about the unique aspects of a particular application." ('482 patent at 32:16-17,

2   33:39-40. '111 patent at 31:62-63, 32:41-42, 33:23-24.) This approach modularizes software

3   components and helps reduce time and resource for developing new applications.

4   32.   Moreover, if changes need to be made to a common functionality shared among

5   multiple applications, only one set of metadata needs to be modified to incorporate the changes.

6   Since the metadata is re-used by all the applications that implement this functionality, the changes

7   are automatically propagated to all those applications using the same set of metadata.

8   **III.   "layer[s]"**

9   33.   I understand that there is a dispute in this case regarding the construction of the term

10   "layer[s]." Specifically, I understand that the parties' proposed constructions for this term is as

11   follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"layer[s]" ('482 claims 1, 3, 5, 10, 20, 21, 23, 25, 30, 40)	"a set of functionally or logically related software components"	Indefinite, or in the alternative, requiring at least "a group of data and/or functions that serve a particular purpose, which is separate and distinct from other such groups"

18   34.   I agree with AIT's proposed construction for this term. The system described in the

19   '482 patent has a layered architecture, including a metadata layer, a Java Data Management layer,

20   and a change management layer. ('482 patent at 9:33-48, 12:15-16-60, Fig. 1.) The metadata layer

21   further includes two sub-layers. ('482 patent at 12:15-41.) Each layer includes related components

22   that together serve a particular purpose or perform a particular set of related tasks. For example, the

23   metadata layer stores and manages metadata that define applications. ('482 patent at 12:15-14:19.)

24   The Java Data Management layer generates applications based on each application's metadata stored

25   in and managed by the metadata layer. ('482 patent at 14:21-16:16.) The change management layer

26   monitors and detects changes made to specific applications. ('482 patent at 16:17-46.)

27   35.   "Layer" is a well-known and well-defined concept in software architecture and

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development, and therefore not indefinite to those skilled in the art. A layer is generally understood

to be a logical structuring mechanism for the elements that make up a software system. (Microsoft

Developer Network, Deployment Patterns, http://msdn.microsoft.com/en-us/library/ff646997.aspx,

attached here as Exhibit 2.) In object-oriented design, a layer usually refers to a set of classes that

share the same module dependencies with other modules in that same layer.

(http://www.techopedia.com/definition/2016/layer-object-oriented-design, attached here as Exhibit

3.)

IV.   "automatically detect[ing]"

36.   I understand that there is a dispute in this case regarding the construction of the term

"automatically detect." Specifically, I understand that the parties' proposed constructions for this

term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"automatically detect[ing]" ('482 claims 1, 21) ('111 claim 13)	"detect[ing] without direct human intervention"	Indefinite, or in the alternative, requiring at least "detect[ing] without any intervention by a human operator through the use of one or more intelligent agents"

37.   I agree with AIT's proposed construction for this term. The '482 and '111 patents

describe a change management layer capable of detecting changes to an application. ('482 patent at

16:18-47. '111 patent at 16:20-48.) This layer is implemented as computer software. ('482 patent at

16:61-65. '111 patent at 16:62-66.) One example of such implementation is referred to as the

"intelligent agents" capable of searching the web for relevant changes in specific business areas

based on predefined rules and constraints. ('482 patent at 16:19-24. '111 patent at 16:20-25.)

However, the intelligent agents are merely one embodiment of change detection. It is certainly not

the only embodiment of change detection contemplated by the '482 and '111 patents. For example,

the system's Change Configuration functions support change of End User functions "through a

variety of flexible and intelligent manual routines, such as intelligent agents, screens, fields, reports,

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1   documents and logic that can be changed without requiring programming skills." ('482 patent at

2   10:6-14. '111 patent at 10:10-18.) Here, the '482 and '111 specifications indicate that changes may

3   be made through several methods, and "intelligent agents" is only one method. An application can

4   also be modified at one location and propagated to other locations. ('482 patent at 12:42-46. '111

5   patent at 12:46-50.) Here again, the '482 and '111 specifications do not indicate that the

6   modification must be done through any intelligent agent. Accordingly, the construction for this

7   claim term should not be limited to the use of an intelligent agent.

8   **V.   "information about [the] unique aspects of a particular application"**

9   38.   I understand that there is a dispute in this case regarding the construction of the

10 phrase "information about [the] unique aspects of a particular application." Specifically, I

11 understand that the parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"information about [the] unique aspects of a particular application" ('482 claims 1, 21) ('111 claim 13)	"metadata that defines a data element or application function relating to a specific activity of a particular application"	"unique aspects" is indefinite

18   39.   I agree with AIT's proposed construction for this term. The '482 and '111 patents

19 describe a metadata layer for storing and managing metadata that defines each application. ('482

20 patent at 9:49-63, 12:30-14:19. '111 patent at 9:53-67, 12:20-14:21.) The metadata layer "provides

21 and/or defines data about every feature of the user interface," and the business content layer includes

22 data "that is specific to the particular business operations of interest to the user." ('482 patent at

23 9:41-48. '111 patent at 9:46-52.) In fact, all the information required to create front-end applications

24 and back-end database is stored and managed in the metadata layer. ('482 patent at 10:15-17. '111

25 patent 10:19-21.) The metadata layer has two main components: a business content data dictionary

26 and an application component. ('482 patent at 12:32-34. '111 patent at 12:37-39.) "The data

27 dictionary describes or defines the data elements of the application system and the business content

28

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layer and how a data element is recorded and managed at the database management system (DBMS)

level. The application component primarily records procedures for manipulating business

information using data entry forms, worklists, processes, documents, reports and business logic."

('482 patent at 12:34-41. '111 patent at 12:39-45.) Furthermore, the business content layer "includes

business knowledge, logical designs, physical designs, physical structures, relationships, and data

associated with a selected area of business activity." ('482 patent at 12:16-19. '111 patent at 12:20-

23.) The metadata layer includes the data elements and business activities that are unique to

individual applications. ('482 patent at 12:15-41. '111 patent at 12:39-45.)

VI.   "information about the user interface and functions common to a variety of applications" / "information about user interface elements and one or more functions common to various applications"

40.   I understand that there is a dispute in this case regarding the construction of the

phrase "information about the user interface and functions common to variety of applications" /

"information about user interface elements and one or more functions common to various

applications." Specifically, I understand that the parties' proposed constructions for this term is as

follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"information about the user interface and functions common to a variety of applications" / "information about user interface elements and one or more functions common to various applications" ('482 claims 1, 21) ('111 claim 13)	"metadata that defines user interface elements and/or application functions common to multiple applications"	Indefinite, or in the alternative, requiring at least "information about user interface components and functions used by multiple different applications, excluding any unique aspects of those applications"

41.   I agree with AIT's proposed construction for this term. The '482 and '111 patents

describe a metadata layer for storing and managing metadata that defines each application. ('482

patent at 9:49-63, 12:30-14:19. '111 patent at 9:53-67, 12:20-14:21.) The metadata layer "provides

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1   and/or defines data about every feature of the user interface," and the business content layer includes

2   data "that is specific to the particular business operations of interest to the user." ('482 patent at

3   9:41-48. '111 patent at 9:46-52.) In fact, all the information required to create front-end applications

4   and back-end database is stored and managed in the metadata layer. ('482 patent at 10:15-17. '111

5   patent 10:19-21.) The metadata layer has two main components: a business content data dictionary

6   and an application component. ('482 patent at 12:32-34. '111 patent at 12:37-39.) "The data

7   dictionary describes or defines the data elements of the application system and the business content

8   layer and how a data element is recorded and managed at the database management system (DBMS)

9   level. The application component primarily records procedures for manipulating business

10 information using data entry forms, worklists, processes, documents, reports and business logic."

11 ('482 patent at 12:34-41. '111 patent at 12:39-45.) Furthermore, the business content layer "includes

12 business knowledge, logical designs, physical designs, physical structures, relationships, and data

13 associated with a selected area of business activity." ('482 patent at 12:16-19. '111 patent at 12:20-

14 23.) The metadata layer includes the user interface and functionality that are common to (i.e., shared

15 by) multiple applications. ('482 patent at 12:15-41. '111 patent at 12: 39-45.) For example, multiple

16 applications may have the same set of interacting menu items and related functions. ('492 patent at

17 17:3-18:12. '111 patent at 17:4-18:15.) The metadata that defines the user interface and

18 functionality common to multiple applications embodies the type of information that is about "the

19 user interface and functions common to a variety of applications."

VII.   "changes that affect a particular application" / "changes that affect an application" / "changes that affect the information in the first portion of the server or the information in the second portion of the server"

42.   I understand that there is a dispute in this case regarding the construction of the

phrase "changes that affect a particular application" / "changes that affect an application" and

"changes that affect the information in the first portion of the server or the information in the second

portion of the server."   Specifically, I understand that the parties' proposed constructions for these

phrases are as follows:

Claim Term or Phrase	AIT's Proposed	Salesforce's Proposed

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	Construction	Construction
"changes that affect a particular application" / "changes that affect an application" ('482 claims 1, 21)	"changes to an application's metadata"	"modifications to regulatory, technological, or social requirements stored in a third party repository that affect an application"
"changes that affect the information in the first portion of the server or the information in the second portion of the server" ('111 claim 13)	"changes to an application's metadata"	"modifications to regulatory, technological, or social requirements stored in a third party repository that affect information about unique aspects of a particular application or functions common to various applications"

43.   I agree with AIT's proposed construction for these phrases. The '482 and '111 patents describe a metadata layer for storing and managing metadata that defines each application. ('482 patent at 9:49-63, 12:30-14:19. '111 patent at 9:53-67, 12:20-14-21.) In fact, all the information required to create front-end applications and back-end database is stored and managed in the metadata layer. ('482 patent at 10:15-17. '111 patent 10:19-21.) The metadata is not limited to regulatory, technological, or social requirements. Changes to an application is not limited to regulatory changes; it also includes non-regulatory changes and other change-intensive business activities. ('482 patent at Abstract, 9:35-37, 9:53-55, 9:65-67. '111 patent at Abstract, 9:40-42, 9:57-59, 10:1-4.) Consequently, modifications to regulatory, technological, or social requirements are only one type of changes that affect applications, but not the only type of changes that affect applications.

44.   Each application (e.g., its user interface and functionality) is generated using its corresponding metadata. ('482 patent at 9:49-61, 14:21-16:16. '111 patent at 9:53-65, 14:25-16-16.) Since an application is generated using its corresponding metadata, any change to the metadata necessarily affects the application generated based on the metadata.

VIII.   "dynamically [re-]generate[d, ing]"

45.   I understand that there is a dispute in this case regarding the construction of the

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phrase "dynamically [re-]generate[d, ing]." Specifically, I understand that the parties' proposed

constructions for this term is as follows:

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Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"dynamically generate a functionality and a user interface / "dynamically [re-]generate[d, ing]" ('482 claims 1, 21) ('111 claim 13)	"dynamically generate" and "dynamically [re-]generate[d, ing]" means "generate or update when needed"	Indefinite, or in the alternative, requiring at least "generate both a functionality and a user interface immediately and concurrently without any reprogramming and/or recoding of software by a user" "re-generated" means "generated again after initial generation"

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46.   I agree with AIT's proposed construction for this term. The claim language of the
'482 and '111 patents makes it clear when an application should be generated. Claim 1 of the '482
patent states that an application generated when a client computer connects to a server computer.
('482 patent at 32:33-34.) Claim 21 of the '482 patent similarly states that an application generated
when a client computer establishes a connection to a server computer. ('482 patent at 33:56-58.)
Claim 13 of the '111 patent states that an application is generated and sent to a client upon the client
establishing a connection with a server. ('111 patent at 33:29-34:4.) The Java Data Management
layer generates applications based on each application's metadata stored in and managed by the
metadata layer when the applications are needed. ('482 patent at 14:21-16:16. '111 patent at 14:25-
16:16.) For example, when the client connects to the server, the server needs to send an application
to the client. At this point, the application is needed by the client. Thus, the server generates the
applications. ('482 patent at 15:26-29. '111 patent at 15:28-30.)

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47.   AIT's proposed construction is further supported by the specification of the '482 and
'111 patents. In connection with the Java Data Management Layer, the '482 and '111 patents states
that "The user interface is generated by the interpretation of the metadata layer delivered to the Java
data management layer." ('482 patent at 15:17-18. '111 patent at 15:19-20.) "The Java data

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1   management layer and thus what the end user sees is defined only by the metadata and is generated

2   as needed by a single program that interprets what a form will look like." ('482 patent at 15:26-29.

3   '111 patent at 15:28-30.) This description corresponds to the concept of "dynamic" generation of an

4   application from its metadata.

5   48.   AIT's proposed construction is also consistent with how technical dictionaries have

6   defined the term "dynamically." For example, the Microsoft Computer Dictionary, 4th Edition

7   (1999), attached here as Exhibit 4, notes that "dynamic" is: "Occurring immediately and

8   concurrently." Dynamic code generation refers to the generation of executable code at run time.

9   (http://en.wikipedia.org/wiki/Dynamic_software_updating.) The term "dynamic" is well-know and

10   well-defined to those skilled in the art. AIT's proposed construction is much simpler and thus easier

11   to understand by the general population.

12   **IX.   "unique aspects"**

13   49.   I understand that there is a dispute in this case regarding the construction of the term

14   "unique aspects." Specifically, I understand that the parties' proposed constructions for this term is

15   as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"unique aspects" ('482 claims 1, 21) ('111 claim 13)	No separate construction necessary.	Indefinite

21   50.   I agree with AIT's position that no separate construction is necessary for this term

22   and the term is not indefinite. Claims 1 and 21 of the '482 patent and claim 13 of the '111 patent all

23   recite "information about [the] unique aspects of a particular application." ('482 patent at 32:16-17,

24   33:39-40. '111 patent at 33:23-24.) From the context of the claim language, the term "unique

25   aspects" refers to aspects of a particular computer program that are not shared amoung various

26   applications. In other words, there are features of this particular computer program that are available

27   in this computer program and not available in other computer programs built from the metadata of

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the system. Such features may include, for example, functionality, data elements, program logic,

etc.

X.   "establishes a connection with the server computer" / "when the client computer connects to the server computer"

51.   I understand that there is a dispute in this case regarding the construction of the

phrase "establishes a connection with the server computer" / "when the client computer connects to

the server computer." Specifically, I understand that the parties' proposed constructions for this

term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"establishes a connection with the server computer" / "when the client computer connects to the server computer" ('482 claims 1, 21)	No separate construction necessary.	"when a connection between a client computer and a server computer is initiated"

52.   I agree with AIT's position that no separate construction is necessary for this phrase.

Client-server architecture and network connections are well-known and well-understood concepts to

those skilled in the art. The process of establishing a network connection between two devices

involve a sequence of handshakes according to predetermined and usually standardized

communications protocols. There is nothing confusing or ambiguous about what it means for a

client computer to "establish a connection" with a server computer or for a client computer to

"connect" to a server computer. The meaning of "establish a connection" and "connect" is readily

understandable and needs no further construction. In addition, I do not see how Salesforce's

proposed construction of "when a connection between a client computer and a server computer is

initiated" makes the claim language any clearer. "Establishing" a connection suggests essentially the

same meaning as "initiating" a connection, and so all Salesforce's proposed construction is doing is

replacing one word that is already readily understandable with a synonym.

XI.   "distributing the user interface and functionality of the particular application to the client computer" / "a user interface and functionality for the particular application is

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distributed to the browser application"

53.   I understand that there is a dispute in this case regarding the construction of the phrases "distributing the user interface and functionality of the particular application to the client computer" and "a user interface and functionality for the particular application is distributed to the browser application." Specifically, I understand that the parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"distributing the user interface and functionality of the particular application to the client computer" "a user interface and functionality for the particular application is distributed to the browser application" ('482 claims 1, 21)	No separate construction necessary.	"delivering all the components defining the user interface and the functionality of the particular application to the client computer"

54.   I agree with AIT's position that no separate construction is necessary for this phrase. The claim language itself is clear and unambiguous. The user interface and functionality of a particular application is generated using the corresponding metadata from the first and second layers. ('482 patent at 32:23-26, 33:47-51.) Thereafter, the user interface and functionality are delivered to a client. ('482 patent 32:30-34, 33:54-58.)

55.   Salesforce's proposed construction unnecessarily narrows this language by requiring the distribution of "all the components defining the user interface and the functionality of the particular application" to the client. But the plain language of the claims refers to distributing the "user interface and functionality" of the application, not "all the components defining the user interface and the functionality."

XII.   "distributing the first and the second layers across one or more server computers"

56.   I understand that there is a dispute in this case regarding the construction of the phrase "distributing the first and the second layers across one or more server computers."

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Specifically, I understand that the parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"distributing the first and the second layers across one or more server computers" ('482 claim 40)	No separate construction necessary. Alternately, "delivering metadata from both the first and second layers to one or more server computers."	"delivering the first layer to a group of one or more server computers and delivering the second layer to a different group of one or more server computers"

57.   I agree with AIT's position that no separate construction is necessary for this term. The specification as well as the claim language of the '482 patent make the meaning of this term clear and unambiguous. The metadata layer stores metadata that defines the user interface and functionality of the applications. ('482 patent at 12:15-14:19.) Conceptually, there are two types of metadata: (1) metadata that defines a data element or application function relating to a specific activity of a particular application (i.e., metadata from the first layer), and (2) metadata that defines user interface elements and/or application functions common to multiple applications (i.e., metadata from the second layer). ('482 patent at 33:39-44.) However, these two types of metadata is merely a conceptual separation, not necessarily a physical separation. Hence, the two types of metadata do not need to be processed on separate server computers.

58.   Physically speaking, both types of metadata is stored together in the metadata layer. The claim language makes it clear and unambiguous that the metadata from both the first and second layers are delivered to one or more severs. In other words, the metadata from both the first and second layers can all be delivered to and stored on a single server. Or alternatively, the metadata from both the first and second layers can be delivered to and stored on multiple servers.

59.   The metadata is stored in metadata tables in the metadata layer. ('482 patent at 12:53-14-19, Figs. 4-5.) Different types of metadata may be stored in different metadata tables in the preferred embodiment (e.g., GreenSuite Image table, View Business Area table, View group table, group module table, report group table, report trigger table, module formula table, related module table, calculation profile variable table, etc.). Nevertheless, all of these tables belong to the same

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metadata layer. The '482 patent never indicates in any way that some of these tables must be physically stored in a separate location (i.e., on different servers) from other tables.

XIII.   "portion" / "portion of the server"

60.   I understand that there is a dispute in this case regarding the construction of the term "portion" / "portion of the server." Specifically, I understand that the parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"portion" / "portion of the server" ('111 claims 13-17)	"a functionally or logically related subset of one or more server computers "	"a subset of one server computer separate and distinct from other subsets"

61.   I agree with AIT's proposed construction for this term. Based on the context of the claim language, the term "portion" is similar to the term "layer" and therefore should have a similar construction as that of the term "layer".

62.   The system described in the '111 patent has a layered architecture, including a metadata layer, a Java Data Management layer, and a change management layer. ('111 patent at 9:38-67, 11:67, Fig. 1.) The metadata layer further includes two sub-layers. ('111 patent at 12:20-56.) Each layer includes related components that together serve a particular purpose or perform a particular set of related tasks. For example, the metadata layer stores and manages metadata that define applications. ('111 patent at 12:20-14:21.) The Java Data Management layer generates applications based on each application's metadata stored in and managed by the metadata layer. ('111 patent at 14:25-16:16.) The change management layer monitors and detects changes made to specific applications. ('111 patent at 16:20-48.)

63.   "Layer" is a well-known and well-defined concept in software architecture and development, and therefore not indefinite to those skilled in the art. A layer is generally understood to be a logical structuring mechanism for the elements that make up a software system. (Microsoft Developer Network, Deployment Patterns, http://msdn.microsoft.com/en-us/library/ff646997.aspx, attached here as Exhibit 5.) In object-oriented design, a layer usually refers to a set of classes that

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1   share the same module dependencies with other modules.

2   (http://www.techopedia.com/definition/2016/layer-object-oriented-design, attached here as Exhibit

3   6.)

4   **XIV.   "upon establishment of a connection between the server and the client device"**

5   64.   I understand that there is a dispute in this case regarding the construction of the

6   phrase "upon establishment of a connection between the server and the client device." Specifically,

7   I understand that the parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"upon establishment of a connection between the server and the client device" ('111 claim 13)	No separate construction necessary.	"when a connection is initiated between a client computer and a server computer"

65.   I agree with AIT's position that no separate construction is necessary for this phrase.

Client-server architecture and network connections are well-known and well-understood concepts to

those skilled in the art. The process of establishing a network connection between two devices

involve a sequence of handshakes according to predetermined and usually standardized

communications protocols. There is nothing confusing or ambiguous about how a network

connection should be established between a client and a server. There is also nothing confusing or

ambiguous about what it means to "establish a connection" between a server and a client device. In

addition, I do not see how Salesforce's proposed construction of "when a connection is initiated

between a client computer and a server computer" makes the claim language any clearer.

"Establishing" a connection suggests essentially the same meaning as "initiating" a connection, and

so all Salesforce's proposed construction is doing is replacing one word that is already readily

understandable with a synonym.

XV.   "business content database"

66.   I understand that there is a dispute in this case regarding the construction of the term

"business content database." Specifically, I understand that the parties' proposed constructions for

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1   this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"business content database" ('482 claims 3, 23)	"a data store containing data specific to particular business operations"	Indefinite

67.   I agree with AIT's proposed construction for this term. The term is not indefinite as it is described in detail in the '482 patent. It characterizes a business content layer, which includes "business knowledge, logical designs, physical designs, physical structures, relationships, and data associated with a selected area of business activity." ('482 patent at 12:17-29.) The corresponding metadata is stored in a database management system (DBMS) in various tables. ('482 patent at 12:34-38, 12:53-14-19, Figs. 4-5.) The business content database is a database in which data are stored.

XVI.   "logical designs"

68.   I understand that there is a dispute in this case regarding the construction of the term "logical designs." Specifically, I understand that the parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"logical designs" ('482 claims 4, 24) ('111 claim 15)	"an abstract representation of the data flows, inputs, and outputs of an application"	"an arrangement of data in a series of logical relationships referred to as entities or attributes"

69.   I agree with AIT's proposed construction for this term. First, the term "logical designs" refers to the logical designs of those applications (e.g., business applications) generated from metadata stored in the metadata layer, and not the logical designs of the database used to store the metadata.

70.   Claims 3 and 23 of the '482 patent, upon which claims 4 and 24 depend, respectively, recite "a business content database having data about one or more different predetermined business applications." ('482 patent at 32:42-43, 33:66-67.) It is clear that the business content database

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1   stores data about the business applications. Claim 4 and 24 of the '482 patent then recite "the data

2   further comprises one or more of business knowledge, logical designs, physical designs, physical

3   structures and relationships associated with the predetermined business application." ('482 patent at

4   32:44-48, 34:1-5.) It is further clear that the data stored in the business content database may

5   include business knowledge, logical designs, physical designs, physical structures and relationships

6   about the business applications.   The claim language is unambiguous that the logical designs are the

7   logical designs of the business applications, not of the business content database.

8   71.   Similarly, claim 14 of the '111 patent, upon which claim 15 depends, recite "the

9   information of the first portion of the server includes information associated with one or more

10   predetermined business applications." ('111 patent at 34:9-11.) It is clear that the information from

11   the first portion of the server is information about the business applications. Claim 15 of the '111

12   patent then recite "the information of the first portion of the server includes at least one of business

13   knowledge, logical designs, physical designs, physical structures, and relationships associated with

14   one or more predetermined business applications." ('111 patent at 34:12-16.) It is further clear that

15   the information from the first portion of the server may include business knowledge, logical designs,

16   physical designs, physical structures and relationships about the business applications.   Again, the

17   claim language is unambiguous that the logical designs are the logical designs of the business

18   applications, not of the storage in the first portion of the server where the information is stored.

19   72.   This interpretation is supported by the specification of the '482 and '111 patents,

20   which state that the business content layer "includes business knowledge, logical designs, physical

21   designs, physical structures, relationships, and data associated with a selected area of business

22   activity." ('482 patent at 12:16-20. '111 patent at 12:20-23.) The business content layer is

23   characterized as a business content database and is referenced in the metadata layer. ('482 patent at

24   12:24-29. '111 patent at 12:27-32.) The metadata stored in the metadata layer is used to generate

25   applications. ('482 patent at 9:49-61, 15:10-49. '111 patent at 9:53-66, 15:13-50.) Thus, the logical

26   designs are the logical designs of the applications to be generated.

27   73.   Second, logical design is part of systems designs, which is "the process of defining

28   the architecture, components, modules, interfaces, and data for a system to satisfy specified

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1   requirements." (https://en.wikipedia.org/wiki/Systems_design, attached here as Exhibit 7)

2   Specifically, the logical design of a system "pertains to an abstract representation of the data flows,

3   inputs, and outputs of the system." *Id.*;

4   (https://en.wikipedia.org/wiki/Systems_design#Logical_design) In comparison to physical designs,

5   logical design is more conceptual and abstract than physical design.

6   (http://docs.oracle.com/cd/A87860_01/doc/server.817/a76994/logical.htm, attached here as Exhibit

7   8)

8   **XVII. "physical designs"**

9   74.   I understand that there is a dispute in this case regarding the construction of the term

10   "physical designs." Specifically, I understand that the parties' proposed constructions for this term

11   is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"physical designs" ('482 claims 4, 24) ('111 claim 15)	"the input and output processes of an application"	"description of a physical database including tables and constraints"

17   75.   I agree with AIT's proposed construction for this term. First, the term "physical

18   designs" refers to the physical designs of those applications (e.g., business applications) generated

19   from metadata stored in the metadata layer, and not the physical designs of the database used to store

20   the metadata.

21   76.   Claims 3 and 23 of the '482 patent, upon which claims 4 and 24 depend, respectively,

22   recite "a business content database having data about one or more different predetermined business

23   applications." ('482 patent at 32:42-43, 33:66-67.) It is clear that the business content database

24   stores data about the business applications. Claim 4 and 24 of the '482 patent then recite "the data

25   further comprises one or more of business knowledge, logical designs, physical designs, physical

26   structures and relationships associated with the predetermined business application." ('482 patent at

27   32:44-48, 34:1-5.) It is further clear that the data stored in the business content database may

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1   include business knowledge, logical designs, physical designs, physical structures and relationships

2   about the business applications.   The claim language is unambiguous that the physical designs are

3   the physical designs of the business applications, not of the business content database.

4   77.   Similarly, claim 14 of the '111 patent, upon which claim 15 depends, recite "the

5   information of the first portion of the server includes information associated with one or more

6   predetermined business applications." ('111 patent at 34:9-11.) It is clear that the information from

7   the first portion of the server is information about the business applications. Claim 15 of the '111

8   patent then recite "the information of the first portion of the server includes at least one of business

9   knowledge, logical designs, physical designs, physical structures, and relationships associated with

10 one or more predetermined business applications." ('111 patent at 34:12-16.) It is further clear that

11 the information from the first portion of the server may include business knowledge, logical designs,

12 physical designs, physical structures and relationships about the business applications.   Again, the

13 claim language is unambiguous that the physical designs are the physical designs of the business

14 applications, not of the storage in the first portion of the server where the information is stored.

15   78.   This interpretation is supported by the specification of the '482 and '111 patents,

16 which state that the business content layer "includes business knowledge, logical designs, physical

17 designs, physical structures, relationships, and data associated with a selected area of business

18 activity." ('482 patent at 12:16-20. '111 patent at 12:20-23.) The business content layer is

19 characterized as a business content database and is referenced in the metadata layer. ('482 patent at

20 12:24-29. '111 patent at 12:27-32.) The metadata stored in the metadata layer is used to generate

21 applications. ('482 patent at 9:49-61, 15:10-49. '111 patent at 9:53-66, 15:13-50.) Thus, the

22 physical designs are the physical designs of the applications to be generated.

23   79.   Second, physical design is part of systems designs, which is "the process of defining

24 the architecture, components, modules, interfaces, and data for a system to satisfy specified

25 requirements." (*See* Ex. 7) Specifically, the physical design of a system "relates to the actual input

26 and output process of the system." (*Id.*) In comparison to logical designs, logical design is more

27 conceptual and abstract than physical design. (*See* Ex. 8) Logical design is a precursor to physical

28 design. The physical design determines how a system is implemented.

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1   **XVIII. "physical structures"**

2   80.   I understand that there is a dispute in this case regarding the construction of the term

3   "physical structures" / "physical structures and relationships." Specifically, I understand that the

4   parties' proposed constructions for this term is as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"physical structures" ('482 claims 4, 24) ('111 claim 15)	"the components, their relationships and arrangements, that form an application"	"structure of a database that can be seen and operated on by the operating system, such as the physical files stored on a disk"

10   81.   I agree with AIT's proposed construction for this term. The term "physical

11   structures" refers to the physical structures of those applications (e.g., business applications)

12   generated from metadata stored in the metadata layer, and not the physical structures of the database

13   used to store the metadata.

14   82.   Claims 3 and 23 of the '482 patent, upon which claims 4 and 24 depend, respectively,

15   recite "a business content database having data about one or more different predetermined business

16   applications." ('482 patent at 32:42-43, 33:66-67.) It is clear that the business content database

17   stores data about the business applications. Claim 4 and 24 of the '482 patent then recite "the data

18   further comprises one or more of business knowledge, logical designs, physical designs, physical

19   structures and relationships associated with the predetermined business application." ('482 patent at

20   32:44-48, 34:1-5.) It is further clear that the data stored in the business content database may

21   include business knowledge, logical designs, physical designs, physical structures and relationships

22   about the business applications.   The claim language is unambiguous that the physical structures are

23   the physical structures of the business applications, not of the business content database.

24   83.   Similarly, claim 14 of the '111 patent, upon which claim 15 depends, recite "the

25   information of the first portion of the server includes information associated with one or more

26   predetermined business applications." ('111 patent at 34:9-11.) It is clear that the information from

27   the first portion of the server is information about the business applications. Claim 15 of the '111

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1   patent then recite "the information of the first portion of the server includes at least one of business

2   knowledge, logical designs, physical designs, physical structures, and relationships associated with

3   one or more predetermined business applications." ('111 patent at 34:12-16.) It is further clear that

4   the information from the first portion of the server may include business knowledge, logical designs,

5   physical designs, physical structures and relationships about the business applications. Again, the

6   claim language is unambiguous that the physical structures are the physical structures of the business

7   applications, not of the storage in the first portion of the server where the information is stored.

8   84.   This interpretation is supported by the specification of the '482 and '111 patents,

9   which state that the business content layer "includes business knowledge, logical designs, physical

10   designs, physical structures, relationships, and data associated with a selected area of business

11   activity." ('482 patent at 12:16-20. '111 patent at 12:20-23.) The business content layer is

12   characterized as a business content database and is referenced in the metadata layer. ('482 patent at

13   12:24-29. '111 patent at 12:27-32.) The metadata stored in the metadata layer is used to generate

14   applications. ('482 patent at 9:49-61, 15:10-49. '111 patent at 9:53-66, 15:13-50.) Thus, the

15   physical structures are the physical structures of the applications to be generated.

16   85.   Any system has a physical structure. In terms of computer programs, the physical

17   structure of a computer program refers to the components that make up the program, what they are,

18   what they do, how they interact and relate to each other, and so on.

19   **XIX.   "builder module"**

20   86.   I understand that there is a dispute in this case regarding the construction of the term

21   "builder module." Specifically, I understand that the parties' proposed constructions for this term is

22   as follows:

Claim Term or Phrase	AIT's Proposed Construction	Salesforce's Proposed Construction
"builder module" ('482 claim 10)	"a software tool to construct an application or part of an application from metadata"	"self-contained unit of software capable of generating a user interface using metadata for a user interface and functions common to a variety of applications"

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2   87.   I agree with AIT's proposed construction for this term. The '482 patent discloses that

3   a user can enter data pertaining to an application through the Java data management layer. ('482

4   patent at 15:50-57.) The '482 patent provides several example forms through which the user can

5   enter data. ('482 patent at 11:30-12:12, 16:35-47, 17:48-67, Fig. 15, Fig. 17, Fig. 19.)

6   88.   The system disclosed in the '482 and '111 patents include configuration tools and end

7   user tools. ('482 patent at 9:49-63. '111 patent at 9:53-67.) "Within the Java management layer,

8   configuration tools take the place of a programmer and define various end user functions in terms of

9   metadata, and metadata definitions are used to implement the desired end user functions." ('482

10   patent at 9:49-52. '111 patent at 9:54-57.) Thus, consistent with the specification, "builder module"

11   refers generally to a software tool that can be used to construct an application or part of an

12   application based on metadata.

13   **XX.   Indefiniteness**

14   89.   I understand that Salesforce contends that the following terms and phrases in the

15   claims of the '482 and '111 patents are invalid for indefiniteness:

16

17   - "the fourth portion of the server being configured to automatically detect changes that affect the information in the first portion of the server or the information in the second portion of the server"

18   - "a change management layer for automatically detecting changes that affect an application" or "automatically detecting changes that affect a particular application"

19

20   - "a second layer associated with the server computer containing information about the user interface and functions common to a variety of applications, a particular application being generated based on
21   the data in both the first and second layers" or "a second layer containing information about the user interface and functions common to a variety of applications, wherein a particular application is
22   generated based on the data in the first and second layers"

23   - "a third layer associated with the server computer that retrieves the data in the first and second layers
24   in order to generate the functionality and user interface elements of the application" or "a third layer that retrieves the data in the first and second layers in order to generate the functionality and user
25   interface for a particular application for the client computer as the client computer connects to the server computer"

26

27   - "dynamically"

     - "unique aspects"

28

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90.   I disagree with Salesforce's contention that these terms and phrases are indefinite. I have already discussed above my opinions as to the construction of these terms and phrases and/or terms that can be found within these terms and phrases. Based on those opinions, it is further my opinion that these terms and phrases inform those of ordinary skill in the art about the scope of the inventions claimed in the asserted claims of the '482 and '111 patents with fair certainty. These terms and phrases are therefore definite.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed on 18 September, 2015 in Seattle, Washington.

_____

Craig Rosenberg